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ABSTRACT

Issues in the design of research to describe educational practice are examined, and arguments for and against particular methodologies are summarized. A single study is used for illustrative purposes; it explores the relationship between English taught as a second language in school and English language needs in the workplace. The study uses both ethnographic and quantitative research techniques. The report first outlines the variables in the study. A discussion of procedures describes the need analysis, sampling, establishment of a systematic classroom observation schedule, audio recording of classroom interaction, interviews with teachers and students, and examination of teacher records. Rationales for these and additional procedures are then explained. The subsequent section describes construction of the classroom observation instrument and the method for merging quantitative observational data with data drawn from the audio recording. The conducting of interviews is then discussed, including interview types, interviewer attributes, questions, problems, and administrative issues. A 45-item bibliography is included. (MSE)

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CENTRE FOR LANGUAGE IN EDUCATION

UNIVERSITY OF SOUTHAMPTON

OCCASIONAL PAPERS, 20

CONSTRUCTING A MULTI-DIMENSIONAL RESEARCH STUDY

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FEBRUARY 1994

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Constructing a Multi-Dimensional Research Study

Introduction

This paper is about preparing for studies that aim both to describe educational practice and to understand causes and effects (Ball, 1991:188). It summarises arguments for and against particular research instruments for such purposes. The particular study used to illustrate this explores language in the workplace related to the language curriculum in schools in Malaysia, but the general research issues discussed may be relevant to others engaged in explanatory, in-depth investigations. Consequently the paper describes a number of approaches to research, each aiming to provide a different angle of approach to the specific problem being investigated, and constitutes a more detailed account of some research methods, to follow on from the first Centre for Language in Education Occasional Paper (Brumfit and Mitchell, 1990).

The Malaysian research explores the relation between school practice and expected workplace needs, using both quantitative and ethnographic techniques. It is not pure ethnography, because the amount of time available to spend in both school and workplace settings is insufficient to justify such a description, but similar techniques of observation and analysis are used, in the sense described by Lutz (1993: 108):

> Ethnography is a holistic, thick description of the interactive processes involving the discovery of important and recurring variables in the society as they relate to one another, under specified conditions, and as they affect or produce certain results and outcomes in the society. It is not a case study, which narrowly focuses on a single issue, or a field survey that seeks previously specified data, or a brief encounter (for a few hours each day for a year, or 12 hours a day for a few months) with some group. Those types of research are ethnographic but not ethnography!

Hammersley (1993) reports that when the limitations of positivism for the social sciences were realized, many educational researchers turned to ethnography. However, as ethnography involves long periods of immersion in the field, which most educationists who hoped to obtain quick answers to educational problems cannot afford to do, case studies utilizing ethnographic techniques became increasingly popular by making the following modifications:

1. the amount of time in a setting is reduced, on the grounds that it is necessary to produce results rapidly to be useable, so that the information does not get out of date;
2. access is negotiated on the basis that those studied control the data collected, and must give permission for its publication.

In looking at the curriculum, a "matching" study (Eggleston et. al. 1975: 55) may be appropriate. The use of a standardized observation schedule with different classes will make possible comparisons between the classes involved, using quantitative methods of recording and analysis. In addition, a questionnaire survey can also be used, providing further quantitative evidence.

To justify use of these quantitative techniques, it is necessary to identify the variables of the study so as to provide some guidelines for the construction of instruments.

With this general introduction in mind, let us consider specific procedures in relation to the specific research questions.

Variables in research

The main research question for this project was whether school practice matched perceived English language needs for the workplace in school. The main concepts to be operationalized were the concept of needs for the workplace in addition to the concept of school practice. These two form the overarching concepts of the study.

With regard to the first, the concept of needs is made up of target needs, process needs, and individual subjective needs.

In the analysis of needs for the workplace, the variables are broken down into types of jobs, language related work tasks, settings for language use, levels of target performance, dialect use, and registers. The variables of topics and content of interaction, language exponents, role relationships within the work context, workplace culture and other contextual variables will be obtained through interviews rather than questionnaire survey as certain information will be specific to the individual and cannot be included in a comprehensive way for every member of staff, as they are difficult to predict.

As part of the systematic observation of the classroom, the concept of school practice can be broken down into the curriculum, the teaching, the learning experience, the classroom context and supporting resources and students' current level of achievement in the subject.

The identification of variables will help to structure the quantitative aspects of the study, and aid in the construction of indicators to be observed and quantified.

THE RESEARCH PROCEDURES

The needs analysis component

The needs analysis component will utilize the procedures outlined below to obtain a definitive account of the types and range of occupations that need English in carrying them out. At the same time it will provide information on the functional use of English in the workplace and the language skills that are needed in the execution of these occupations.

1. Analysis of job advertisements in the English language dailies of Malaysia, the levels of proficiency expected, and the specification of spoken, or written English, and other skills specifications, e.g. presentation skills, etc.
2. Questionnaire survey of a small number of firms in the business and industrial sector towards the identification of needs by employers
3. Observation of three contrasting occupations in the workplace, including depth-interviewing of the respondents in two different private sector companies
4. Depth interviews of three other workers in contrasting occupations in the same two companies.

The school sample will comprise two classes each in two schools, one a mixed race school in an urban area, and the other a predominantly ethnic Malay school in a

semi urban area. Form Four classes will be chosen, one good class and one average one in each school. Since the observation will occur towards the end of the school year, it would not be advisable to select Form Five classes as they will be busy with revision work for the school certificate examination. A period of two weeks each will be spent in each school for the systematic recording and audio-recording, with an additional two days each for ethnographic-like observation.

So the following procedures will be utilized:

5. A systematic classroom observation schedule, which will record the occurrence of categories pertinent to the study such as workplace-like classroom behaviour and activities and topical content of workplace interactions. This is felt to be a very suitable procedure to adopt when aiming at the analysis and study of the match between school experience and perceived workplace needs, since the variables related to workplace needs would have been established prior to the school visits.

6. Audio-recording, which will be used in qualitative retrospective analysis, with the aim of drawing out relevant language behaviours related to perceived workplace competencies and in the hope of being able to establish theoretical constructs from evidence contained in the classroom transcripts.

It could also be used as a checking device to supplement and reinforce the researcher's notes, records and tallies.

Additionally, in order to determine process needs and teachers' teaching philosophy, methodology and attitudes as well as to clarify events observed in the teaching-learning processes, and explore teacher and students' interactions, the following will be utilized.

7. In-depth unstructured interviews with teachers.

In order to get at students' subjective needs, their attitudes and feelings towards English, as well as their self-assessment of their ability in English, the following will be utilized:

8. In-depth unstructured interviews with students.

In order to establish students' proficiency in the English language:

9. An examination of teacher's assessment records throughout the year.

In order to obtain other contextual information, teacher's record books, scheme of work for the year, support materials and equipment for English available in the school will also be examined.

Additionally, it is hoped that contextual qualitative data will reveal certain patterns and relationships to explain any observed relationships between language learning processes in the classroom and the level of English proficiency of the students.

As the main thrust is towards a case study approach, using ethnographic techniques, where it is hoped theory will evolve as the data unfolds, no hypotheses will be developed or tested in the research procedures.

RATIONALE FOR THE PROCEDURES USED

Rationale for the analysis of job advertisements

In undertaking the analysis of job advertisements, it is hoped to obtain a significant account of people looking for jobs who are conversant in English and therefore read English newspapers, and would be able to perform jobs in which English is used. In addition to giving information on the range of occupations that require English to a greater or lesser degree, it is envisaged that at the same time the target level of proficiency required for the various occupations as well as the specific skills that are stressed for the three contrasting occupations studied in depth, will be clarified to a greater degree, and thus provides insights into the world of work that the teacher in the classroom hoping to prepare her/his students to operate in, has no insight into. These advertisements provide a rich source of information on workplace needs, and represent a source that has not been utilized in the construction of curriculum for schools.

Rationale for the questionnaire survey of workplace needs

The questionnaire survey is undertaken to clarify hunches regarding the use of English in the workplace. The researcher would already have certain preconceptions regarding the use of English in the workplace (such as those gleaned from the literature and from the analysis of advertisements), and the survey is undertaken to confirm or disconfirm these hunches.

A mailed questionnaire is the easiest, most economical and fastest way to cover a broad sample for purely descriptive information. To glean the nature of workplace English use, one general questionnaire is administered to a small sample of firms, and covers all categories of workers in those firms analyzed on the basis of location, within the Klang Valley and outside of the Klang Valley. Ideally, different occupations or different categories or levels of occupations should merit one questionnaire, but questions of practicality rule out this possiblity. Different businesses should also receive different questionnaires, but, it was not possible for the researcher to predict the type of occupations or the nature of tasks related to specific businesses. As such, the decision was taken to use one questionnaire for all types of firms, covering all levels of workers.

However, to overcome the obvious limitations of the mailed (general) questionnaire, additional, qualitative data will be collected from workplace observation of the three workers in different occupations, and in-depth interviewing of those observed together with three other workers, which would also allow inter and intra company comparisons.

Rationale for using a case study approach with ethnographic techniques

As reported in Hammersley (1993), positivistic techniques in research drawn from psychology with its experimental and correlational paradigms, were influential in classroom observation studies (p. x). This positivistic tradition was challenged by the writings of Blumer, among others, who argued that rather than human actions being merely responses to psychological conditioning or social forces, they were in fact "actively constructed on the basis of complex processes of interpretation through which people *make* sense of the world. These processes derive from, but also act back upon, perspectives which are developed in the course of social interaction" (p. xi). Both Blumer, from the symbolic interactionist school, and ethnomethodologists who also argued that "human actions cannot be understood without taking into account of the processes of interpretation which generates them" (p. xii) advocate the use of ethnographic techniques to study patterns of social interaction, including those taking place in classrooms. I agree with this view, as the classroom unit is a dynamic and fully functioning social unit of its own with its own culture, and any study of it is to be understood in the way its members see and understand their everyday happenings and interactions.

Phenomenology studies "direct experience taken at face value and sees behaviour as determined by the phenomena of experience rather than by external, objective and physically described reality" (Cohen and Manion, 1985: 327). It is a reaction against the belief that human behaviour is determined by psychological conditioning or social forces (Hammersley,1986: xi).

Ethnography is concerned with the study of social interaction in natural settings through observation and informal participation and conversation (Hammersley and Atkinson, 1983). Roman and Apple (1990) asserts that ethnography renders "...'thick' contextual descriptions of social subjects as they actively and creatively make sense of their social worlds (citing Geertz, 1973)" and was a response to "structuralist reproduction theories to grossly abstract and overtheorize about what goes on in the daily life of cultural institutions or informal settings, whether they are schools, families, or youth subcultures" (p. 44).

Ethnomethodology is concerned with how people make sense of their everyday world. It treats meanings as context-dependent in which agreement among the actors is not produced by commonality of meanings but rather by the collective use of shared methods to create intelligible behaviour and to find meaning in other's actions (Cohen and Manion, 1985: 32 and 33). It treats common everyday life as a phenomenon in its own right.

Interactionism focuses on the nature of interaction: "Individuals interact; societies are made up of interacting individuals. People are constantly undergoing change in interaction and society is changing through interaction" (Cohen and Manion, 1985: 35).

To quote Hammersley, what is important is that both interactionism and ethnomethodology encourages the detailed qualitative analysis of patterns of social interaction including those taking place in classrooms (Hammersley, 1986: xii).

Furthermore, various interdisciplinary influences from psychology, sociology and linguistics have caused a shift from the "quantitative analysis of large samples towards detailed, qualitative investigations of smaller amounts of data, even of

single lessons" (p. xii). This has given rise to a proliferation of case studies which utilize ethnographic techniques as well as quantitative procedures. And in view of the time constraints of the proposed study this seems the most sensible choice of procedure to adopt.

Rationale for the observation of three workers in their workplace and the observation of four classes

In the proposed study, observation in the natural setting of the workplace is to be undertaken, together with observation in the natural setting of the classroom. Although half of the classroom observation will utilize a systematic instrument, the other half will not depend on any structured methodology, with the commitment to discover this methodology in the course of being in the setting and studying it.

The case study is done in an ethnographic mode, in an endeavour to draw out grounded theory in the sense used by Glazer and Strauss (1967) and explicated by various writers of educational research (Woods, 1985). Ethnography (and ethnographic techniques) lend themselves well to grounded theorizing as they study how people interact in a given setting as it is influenced by their beliefs, values, perspectives, motivations and how they interpret each other's actions. In ethnography, researchers endeavour to look from the inside, into how these groups of people have constructed their highly distinctive cultural realities (Woods, 1986: 4-5), rather than impose their armchair theories on the people they had hitherto no contact with.

Woods (1985:52) explains how it is done.

> The main emphasis is on discovery rather than testing of theory, but analysis is sequential - it is both guided by and guides data collection. Categories and their properties are noted and 'saturated'. Concepts emerge from the field, are checked and rechecked against further data, compared with other material, strengthened or perhaps re-formulated. Models of systems are built up in the process of research, and gradually a theory comes into being with its distinctive characteristic of explanation and prediction linking the revealed concepts into an integrated framework, the operationalization of which has been demonstrated. Its plausibility may be strengthened by further case studies in the same area, though it may be continuously refined since it must accomodate all data, and not simply answer to a 'majority of cases'. Later the level of abstraction might be raised by this 'substantive' theory becoming 'formal' theory, as case studies from other substantive areas are compared and examined for common elements.

The reason why the research has no ready hypotheses at the outset is because it is conducted by going into the research situation as far as possible with an open mind, with a commitment to understanding the situation and in the hope of being able to formulate explanations as to why certain phenomena occur on the basis of observations. Bailey (1978: 55) concurs with this view of grounded theorizing following a sequence of entering the field, describing what happens, and formulating explanations based on what is seen and understood.

Error and bias in ethnographic research

Undeniably, ethnographic and sociological research can give rise to bias and errors if the research does not keep a tight control not only during the data collection process, but also during the data analysis process. Phillips (1971) reported that in some sociological studies when responses are checked against other sources of information such as official records, it was often found that respondents do not give truthful answers. These response errors are frequently found in studies such as those asking for health information or questions about deviant behaviour. Furthermore, bias can arise out of the researcher's own attributes such as race, sex and age. There is also respondent bias as it is usual for respondents to deny socially undesirable traits and to admit to socially desirable ones. Researchers unwittingly have a tendency to project their expectations onto the person being studied, and for reasons of social desirability respondents tell the researcher what they think the researcher wants to hear.

Reflexivity

Being reflexive means doing a self analysis of the methodology chosen as the study unfolds. All good ethnographic accounts should attempt to be reflexive by recounting the research experience, the decisions made, and the rationale underlying those decisions. According to Hammersley (1983:4), by being reflexive an obligation is placed on researchers to make themselves aware of decisions they are taking and the motives that underlie those decisions including the obligation to monitor those decisions and the willingness to make adjustments to decisions already taken. Hammersley claims that much of the literature on ethnography is more concerned with the rhetorical justification of ethnography rather than a systematic analysis of the research process.

Lately, however, there have been studies that try to document the ethnographer's experience reflexively, for example Hitchcock (1983) in the study of an open plan school; Measor and Woods (1983) in the study of the myths that confront new students as they transfer from middle school to upper school, as part of their discovery of a new social reality and their adaptation to it; and Beynon (1983) on the problems of being accepted as a member of the society being studied.

Data analysis for ethnographic study

Undoubtedly, reflexivity occurs at all stages of the research process, and researchers shows their accountability to the reader by recounting all stages of the process. Reflexivity operates at the level of data analysis, by discussing the problems of making inference and providing evidence in ethnographic data collected through participant observation (Becker, 1978). Becker notes that there were problems to be resolved at each stage of data analysis - from the first selection and definition of problems, concepts and indicators such as the accuracy of initial conclusions and the credibility of informants; to the second stage of being accurate in reaching certain conclusions about the frequency and distribution of certain phenomena; and on to the construction of partial models of the social system before integrating them into an overall model, researchers face decisions about the validity of their conclusions and the weight of evidence that can convince the reader. One way of dealing with this problem is to describe the "natural history" of drawing conclusions so that readers will be able to make their own judgement "as to the adequacy of the proof and the degree of confidence to be assigned the conclusion" (pp. 322-323).

Various writers (such as Walford, 1991 and Measor and Woods, 1991) have urged the recounting of the research process. Measor and Woods (1991) for example think that, since most research does not proceed as smoothly as the reports seem to indicate, it is a good idea to report breakthroughs and blockages and "decision points" (p.61), especially for the benefit of novice researchers, who might blame themselves if things do not proceed smoothly.

Rationale for using systematic observation in the classroom

Before we can justify using a systematic observation procedure for the classroom, we will need to consider the tradition of systematic observation, and the issues that are involved in using this method, so that any disadvantages and weaknesses of the method can be addressed.

Review of systematic observation procedures

At present, there is no instrument available in the literature that seeks to find the relationship between workplace needs and classroom teaching, even though many of these instruments contain aspects that are relevant to the proposed study. This part of the paper will report on these instruments as reviewed in Croll (1986) and will borrow features from them that are relevant.

The "One in Five" is aimed at investigating whether teacher-student interactions of children with special needs differ from those of normal children. It employs a time-based recording at every ten second interval and the procedure was to observe each child for a few minutes, each time moving from child to child. The ORACLE PROJECT (Observational Research and Classroom Learning Evaluation) aims to describe and analyze student and teacher activities and interactions in the primary school classroom and to relate these to the progress children were making in their school achievements. It focuses on the behaviour and interaction of students (not more than a sample of 8) and teachers. It employs a time-based recording every twenty-five second intervals for the students and a period of observation for the teacher in any one lesson. Two records are kept, a teacher record and a student record.

The focus of observation for "One in Five" as well as the "Oracle" are a few select students only, while for the classic model, FIAC (Flanders Interaction Categories), it is the teacher interacting with the class as a whole. It is difficult to see how coding is done when the lesson is organized for group activity, and different groups may be doing different activities, such as one group actively talking and interacting aand another group doing individual silent reading. Here is where FIAC fails us; it is more suited for classes with a traditional orientation, a point made by Walker and Adelman (1993), who claim that it sees "teacher-student interaction in terms of the transmission of information ... (and) ... does not concern itself with talk as the expression and negotiation of meanings ..." (p.7). Further criticisms put forward by Delamont and Hamilton (1976) should be mentioned also, such as the focus on discrete bits of behaviour making it difficult to go beyond the categories and thus impeding theoretical development (p.8-9).

The Teacher's Day aims to get a representative account of the working day of teachers in junior schools. The observation focuses on the teacher's activities during the day and teacher's work commitment. A continuous recording is employed in which a record is kept of the broad features of teacher's work, and changes

in the teacher's activity are recorded, instead of noting down the activity the teacher is engaged in at certain time intervals, as FIAC does.

Flanders' Interaction Analysis Categories (FIAC) aims to measure teaching effectiveness based on teacher's direct and indirect influence; indirect influence is said to have a positive relationship with learner achievement. The observation is focused on teacher talk and student talk and a continuous recording every three seconds is made.

"A study of schooling" aims to study what happens in classrooms including physical environment. Four different observation procedures are employed which are focused on the physical environment, the teaching-learning activities that transpired during the observation, the details of student-adult interactions and the fourth record concerns space, materials and decision making. The observer spends a whole day in the classroom, tackling each procedure in turn, and going through several cycles of the first three procedures, while the last procedure is recorded last.

The reason why these various systematic schedules are reviewed is because their design and construction give a number of indications of how a new one can be developed for the purposes of the proposed study. The variables and categories looked at, the structure of the instrument, the type of recording used are all helpful in designing an observation instrument that contains the features that has been tried and validated, and has worked and yielded significant quantifiable results. In emulating them novice researchers can avoid the pitfalls that can arise from relying solely on their own judgement when exemplars are available, and are discussed, their weaknesses pointed out and thus avoided, or other criteria included to overcome these weaknesses (for example the absence of context variables).

Criticisms of systematic observation

Hammersley (1986:xiii) reports on the main criticisms of systematic observation, which are:

1. The use of pre-established categories prevents recognition of the complexity of classroom behaviour and obstructs the development of theories that are sensitive to this complexity.
2. By using arbitrary time sampling, systematic observation neglects natural patterns in classroom interaction.
3. Classroom interaction is studied without any attempt to understand the context in which it occurs and in particular the perspectives of the teachers and pupils involved.

The weaknesses cited by Hammersley above are valid if systematic observation is used in isolation from other technqiues. However, in the proposed study, the combination of ethnographic techniques and the practice of reflexivity in the research process it is hoped will overcome most of the weaknesses mentioned.

The use of a systematic observation schedule is defensible where comparisons are to be made; as a matching exercise is involved in this study, it is necessary to specify some predetermined criteria to do the match against. But the defence of the systematic instrument rests on the extent to which its categories have been successfully justified in relation to the rich ambitions of the study.

CONSTRUCTING THE OBSERVATIONAL INSTRUMENT

The categories of the systematic observation schedule

To begin the job of constructing the schedule, indicators are developed which form the categories in the observation schedule. Variables are operationalized into sets of categories into which occurrences can be coded unambiguously according to the rules and criteria which define them.

According to Croll (1986:62):

> The variables used reflect the processes by which we turn the theoretical concepts which underlie our attempts to describe aspects of classrooms into a set of working definitions which are used to provide actual descriptions.

According to Burgess (1986:60), these sets of working definitions of variables provide low inference measures in the coding as they reduce the role of observer judgement to a minimum. Sometimes high inference variables are used in which judgements cannot easily be made in terms of predetermined criteria (such as in TALOS, Ullmann and Geva, 1984:127), leaving the observer to make a personal response to what is seen. High inference variables usually use rating scales.

Burgess claims that concepts are developed by theorists and variables and indicators are developed by researchers. Variables in this sense are "a set of definitions whereby an instance to be coded can be placed uniquely into one of these categories."

With regard to the study in question, this structure can be exemplified diagrammatically, as shown below.

CONCEPTS	Perceived workplace needs School practice The match between the two
VARIABLES	Target needs Process needs Subjective needs Curriculum Language system Classroom context Students' language proficiency
INDICATORS	Workplace competencies and behaviours Classroom activities Topics Affect (attitudes, etc.) Language use Language awareness Organization (Class, group or individual) Physical context: seating, equipment, etc. Cultural context: shared meanings

The development of a systematic observation schedule for the study

Of course, no available and validated observation scheme will do for research with a specific focus, as the variables outlined above illustrate. In designing a research instrument, it is important to remember that it should be capable of getting information on the research concerns and the questions to be answered and should represent a culmination of research ideas operationalized on the basis of a theoretical construct. Sampling decisions as well as data analysis are interlinked with the decisions taken about the recording procedures adopted.

However, Croll (1986:50) makes the following point when a decision has been made to design a new schedule:

> when a researcher decides that the research questions being addressed require a new system rather than using an existing one it will almost certainly be of value to incorporate some aspects of a well established schedule.

Croll's reasons were mainly because some "bench-mark" measures will be available which can be used for comparison, but also because the research itself will be part of a cumulative activity, benefiting from such previous experience as is relevant to the new study.

Of the schedules reviewed, some are capable of being imitated in structure and perhaps some of the observational categories, but in the end it is the aims of the study that determine the content of the instrument. That was the reason it was decided to develop a separate systematic observational schedule specific to the needs of the study, but at the same time emulating the design and some of the features of schedules available in the literature.

For this study, a close reading and study of the COLT (Communicative Orientation of Language Teaching) which is aimed at distinguishing communicatively oriented classroom from non-communicative ones as well as a close reading and study of TALOS (Target Language Observation Scheme) (both in Ullmann and Geva, 1984) which was used in the formative evaluation of a French second language programme, were the main schedules utilized in the development of the systematic observation instrument. The structure of the schedule is borrowed from COLT. Some of the categories (indicators) were also taken from COLT as well as from TALOS.

At the same time, the schedules reported above have been utilized to a lesser extent, thus some of the indicators or categories used are from the One in Five, and the recording system is adapted from The Teacher's Day.

Defining the categories

"Time" and "activity" relate to the choice of type of recording, which is event/activity-based. This is to say that a record is made each time a new activity is introduced by the teacher, and subsequently the other categories are filled in with each change in activity and with each classroom event. Should there be no change of event after five minutes of the last one, the categories will be filled in after every five minutes.

Since the thrust of the observation is on whether workplacelike behaviour, or competencies that have been identified as being essential for the workplace are present in the classroom practice, the main part of the schedule consists of these workplacelike behaviours.

The language behaviours utilize Brumfit's (1984:70) main categories, i.e.

- Conversation/discussion
- Comprehension
- Extended writing

as they are a more integrated classification that are closer to workplace language use rather than the more lockstep classification of the traditional four skills. Apart from these, the detailed categories are entirely based on the researcher's judgement of what constitutes workplace competencies under Brumfit's broad headings and it is felt the operationalization does not conflict with his concept of them.

In addition to these workplace competencies, the topical content of activities are recorded as being related or unrelated to workplace needs, and if necessary, a note made in the "contextual information and other related explanation" column as to what these topics are.

Apart from these very directly linked workplace needs, others that are related in a contextual sense to language use in communication also form part of the coding system. These are: one, attention to the language as a system, or as what is commonly referred to now as language awareness with its breakdown; actual language use in class, i.e. "teacher talk" and "student talk", which is hoped to show either a balance or the preponderance of one in relation to the other.

The next category is classroom organization, again to show the balance of students' active involvement in language work in paired or group interaction, (i.e. fluency practice), as compared to a more passive role when students are involved in a whole-class activity.

Lastly, to see whether affective development is being catered for, since the results of the analysis of job advertisements have shown that certain affective skills, such as leadership and social and interpersonal skills, are important in the workplace (and are communicated through language), a separate column, called "affective development" is included. This is to be distinguished from "affect" with regard to affective behaviour towards the target language, which will be obtained from students' interviews.

Focus of observation and type of recording

In addition to the detailing of the above, Croll (1986) stresses that an observation schedule must have a clear focus of observation within an overall context of observation. The focus of observation is usually the teacher or certain identified students, or as in the case of FIAC, teachers while interacting with the students. The context of observation is the classroom as a whole. In the study in question, the focus of observation is the students as they undergo their learning experiences. Below are given the decisions made as to the essential features of the schedule.

Unit of analysis - The classroom

Focus of observation - Students and their learning experiences

Type of recording - Activity-based, event recording, i.e. any changes in classroom activity is recorded, including a record made of the time this change occurred; if no change in

activity occurs five minutes after the last one activity, a shift is made to a 5 minute time-based recording

Context variables are noted down in the "contextual variables and other related explanation" column. The recording of context variables takes care of some of the limitations that have beset some of the well-known systematic instruments, such as FIAC. Their recording will have to be done through notations because their lack of predictability make it difficult to define categories for them in the systematic schedule. Thus, the attention to contextual variables in this manner will enable a better understanding of the events that occur in relation to the total functioning of the class as a social unit

The qualitative component of the classroom observation through audio-recording

Although notes will be taken simultaneously with the recording of the systematic schedule, they are not likely to be adequate as the researcher's attention will be almost completely involved in filling in of the various categories of the schedule. Therefore, the bulk of the qualitative information would be obtained from the tape-recorded lessons, which will be transcribed and analysed. It is upon this transcribed data that some form of ethnographic analysis will be followed possibly modelled on the coding procedures used in the University of Southampton KAL (Knowledge about Language) project (Mitchell, Hooper and Brumfit, 1994).

In addition, it is proposed to emulate aspects of the analysis that is used by Adams and Biddle (1970) in the project called *Realities of Teaching*, reported in Cohen and Manion (1985: 143-146)). Adams and Biddle utilized two kinds of measurement, one, the incident count, which registers each instance when the different kinds of behaviour occurred, and two, the duration count, which registered the time-span of each particular incident. From the data, Adams and Biddle were able to draw up lesson profiles based on student and teacher roles, location and function of activities, and whether participants in interpersonal exchanges were emitters or targets. Although the proposed study in all probability will not utilize lesson profiles in its secondary analysis, *Realities of Teaching* does provide a good example of how observational data can be structured and yield data "that are objective and capable of quantification" (Cohen and Manion, 1985: 146).

This, however, would mean that there are two sets of data that will have to be merged in some acceptable way so as to contribute to the greater significance of the overall results.

Merging data from two styles of observation, systematic and ethnographic

In analysis, the two sets of data can be treated in three ways as suggested by Galton & Delamont (1985:172):

1. The sets of data could be treated equally
2. The qualitative data could be treated as more valid and the quantitative used to reinforce important and/or controversial points in the argument.
3. The quantitative data could be regarded as "the facts" and the qualitative used to "flesh them out", illustrate them, or "humanize" them.

At this point in the research the feeling is that method number 1 would be utilized. However, the ultimate decision would rest on the qualities of the data themselves, as undoubtedly, the best way to approach them would be to capitalize on their respective strengths and richness.

TEACHERS AND STUDENTS' INTERVIEWS

Interviews as a research strategy

Types of interviews

There are basically three types of interviews: the structured, semi-structured and unstructured. The structured interview is very much like a questionnaire, but is administered by the interviewer rather than being self-administered. It is chosen when the responses do not require too much reflection, and the questions are not contentious. The semi-structured interview contains some structured questions followed by probes, and recording is usually done on the form itself. Unstructured depth interviews require considerable skill to administer and should produce information, by the use of probes, which might not otherwise have emerged. Such interviewers are usually trained and experienced (Wragg, 1984: 183-185). Depth interviews often carry the same connotation as unstructured interviews.

Powney & Watts (1987:119) writing on the potential of depth interviews have this to say:

> For a depth interview, which allows the best possible exploration of views and behaviour patterns, the interview is adapted to the individual and no set questions may be asked, although the interviewer usually has a set agenda to cover. The aim is to get informants to talk freely and openly about themselves, only initial stimuli being provided by the interviewer. In this case, it is more appropriate to have a list of possible topics. The discussion could range well beyond these, provided the interviewer feels it is relevant to the overall aims of the research.

For the study concerned, teachers' and students' interviews are planned using the strategy of unstructured depth interviewing. This is the preferred interview style for this study, as apart from factual and descriptive data it is hoped to be able to draw out attitudes, interest, commitment and other affective states of both teachers and students.

Burgess (1984) at the time of writing his book found a considerable amount of literature on structured interviews, but little on unstructured interviews, so the material for the chapter on interviewing in his book on field research was drawn mainly from his experience in using interviews as a research strategy.

He perceives interviews as conversations, in which the interviewer acts as a friend and confidant and tries to build up trust in the interviewee. It is useful when interviewing a group with certain characteristics to have an interviewer who has undergone the experiences that they have had because this would contribute to understanding and rapport. What is vital is to form a comfortable relationship with the subject being interviewed (Burgess, 1984:103-107).

Interviewer's attributes

Powney and Watts (1987) have a lot of useful hints for the would-be interviewer, too. Like Burgess, they emphasize the importance of establishing rapport. One way of being sure of getting the respondent's attention, is to establish from the beginning the amount of time the interview will take as well as to assure the respondent of confidentiality. It is good practice to ask the structured questions first, to give the respondent time to get used to the situation and the interviewer's presence. The interviewer must have credibility for the interviewee to take the exercise seriously, and lastly Powney and Watts say that "As far as possible the interviewer should give the impression of talking, rather than quizzing" (p.133), echoing Burgess' (1984) views about interviews as conversations.

Cohen and Manion (1985: 310), reviewing Woods (1986) on ethnography, sum up the attributes of interviewers in ethnographic studies, as produced below:

> *Trust*: There would have to be a relationship between the interviewer and interviewee that transcended the research, that promoted a bond of friendship, a feeling of togetherness and joint pursuit of a common mission rising above personal egos.
> *Curiosity*: There would have to be a desire to know, to learn people's views and perceptions of the facts, to hear their stories, discover their feelings. This is the motive force, and it has to be a burning one, that drives researchers to tackle and overcome the many difficulties involved in setting up and conducting successful interviews.
> *Naturalness*: As with observation one endeavours to be unobstrusive in order to witness events as they are, untainted by one's presence and actions, so in interviews the aim is to secure what is within the minds of the interviewees, uncoloured and unaffected by the interviewer.

Some of the interviewer skills suggested by Powney and Watts (1987) are establishing logical order for questioning; good listening skills; good retention of what has been said, so that it can be followed up later in the interview; being perceptive to (non-linguistic) paralinguistic cues; having empathy towards the interviewee; being adaptable to people and circumstances; being aware of the impression one's appearance creates and being prepared to change negative appearance or behaviour; being comfortable with the agenda of the interview that has been planned; being able to handle difficult questions; being prepared to prompt and probe; being able to handle silence in the interview, so as to allow time to the interviewee to formulate his/her thoughts; accurate recording; being able to make a decision of whether to end or continue the interview, as for example, if a previously reticent interviewee becomes voluble when the interviewer begins to leave; and lastly, making certain that the interviewee is left in a calm state should the interview had been upsetting in some way (e.g. asking parents about the education and future of their severely handicapped child) (Powney and Watts, 1987:134-140).

It is important to have an "aide memoire" or agenda for the interview mainly to ensure consistency across all interviews so that similar information is collected to enable comparison across cases. The aide memoire or agenda contains a list of topics, themes and questions although what appears in it may not be the actual questions that would be asked. Apart from good listening skills, interviewers should be careful over their words, gestures and comments so as not to advance or impede the interview, and also not to interrupt so as to allow a smooth flow of talk (Burgess, 1984:108 -111).

Types of interview questions

Burgess (1984: 111-112, citing Spradley, 1979) delineates three types of questions.

> First, descriptive questions which allow informants to provide statements about their activities. Secondly, structural questions which attempt to find out *how* informants organize their knowledge and, finally, contrast questions which allow informants to discuss their meanings of situations and provide an opportunity for comparisons to take place between situations and events in the informants' world. These particular questions are used at different points in the interview while the interviewer probes for details about the informants and encourages them to to discuss situations in their own terms.

Burgess gives examples of transcripts with a commentary at the side to illustrate his use of the three types of questions, as well as illustrating other interview strategies such as keeping the interview flowing, repeating, making a link between comments, etc.

Problems with using interviews

Burgess (1984) further discusses problems in unstructured interviewing such as "question wording, bias, rapport and avoiding loaded questions" (p. 119). Apart from these, there are other problems.

> Researchers need constantly to monitor the direction, depth, and detail of the interviews, recording, transcription and subsequent analysis" (p. 120).

Time management is also important, not only with regard to total length of the interview (not more than two hours; one and a half is considered optimum), and making estimates about blocks of time to devote to particular topics (Burgess, 1984:120).

Regarding the problem of bias, Cohen and Manion (1985) point out that the sources of bias are the characteristics of the interviewer, the characteristics of the respondent, and the substantive content of the questions. There are potential dangers in attitudes and opinions, and often misperceptions and misunderstandings occur. Potential sources of bias are colour, religion, social class and age. However, it is possible to reduce and control bias by careful formulation of questions ensuring that the meaning is clear, also by the probability sampling of respondents, rigorous training of interviewers and ensuring that interviewer characteristics match with interviewee characteristics.

Another problem is invalidity. This can also be controlled by creating rapport and trust so that the interviewee is not guarded and would more readily reveal information that would not otherwise have been revealed in more formal circumstances or if the interviewee is more guarded (Cohen and Manion, 1985: 319).

Wragg (1984) tells of the pitfalls to avoid in the conduct of interviews. These are:

- Interview bias, i.e. framing questions in a way that leads the interviewee in certain directions, either consciously or subconsciously

- Sample bias, i.e. not being representative

- Problem of using hired interviewers who may fake answers when interviewees are unco-operative

- Race bias - responding differently to a person of one's race rather than another race

- Straightjacket interview, i.e. questions that elicit yes/no responses rather than encourage a flow of ideas/explanation

- Respondent bias, in which the respondent would give a response that reflects favourably on him/herself rather than the true situation.

(Wragg, 1984:176-177)

Moser & Kalton (1979: 276-7) brought up the problem of inadequate response in interviews. Quoting Kahn and Cannell (1957) which gives five principal symptoms of inadequate response.

> (The) *partial response* in which the respondent gives a relevant but incomplete answer; *non-response*, when the respondent remains silent or refuses to answer the question; *irrelevant response*, in which the respondent does not answer the question asked; *inaccurate response*, when the question is answered by a reply which is biased or distorted; and the *verbalized response problem*, when the respondent explains why he cannot answer the question, perhaps because he fails to understand it, because he lacks the information necessary for answering it, or because he thinks it is irrelevant or inappropriate.

In cases mentioned above, interviewer skills should come into play. The interviewer would also have to tread a fine line between pressing for the response and information that is needed, or knowing to leave well enough alone, in order to maintain goodwill, and perhaps better cooperation at another time.

Analysis of interviews

Among the hints Burgess (1984:121) gives for analysis when an audio-recording is used, is

> First, the interview needs to be played before transcription begins. Secondly, an index should be prepared using the counter on the tape recorder so that a record is kept of the themes that occur throughout the tape. Thirdly, only relevant materials should be completely transcribed.

Administration of interviews

Janet Hooper (personal conversation) carried out three interviews with teacher respondents in the Southampton University study of explicit knowledge about language (Mitchell, Hooper & Brumfit, 1994). These were:

- One before starting the observation
- One immediately after the observation
- One a term later.

A sequence of interviews allows a further range of perspectives to be developed on the same phenomenon.

In the proposed study, the following will be carried out:

- One before starting the observation
- One halfway through the observation
- One immediately after the observation.

Thus three different viewpoints should be gained from the same subjects.

Conclusion

This paper has tried to take the reader through the process of justifying particular research techniques, using the Malaysian research as a specific illustration. In doing this, much of the research literature on ethnography, systematic observation, questionnaires, and interviewing has been briefly surveyed. Further discussion of these issues from a language teaching perspective can be found in Brumfit and Mitchell (1989), and Allwright and Bailey (1991). I hope that the general discussion will be useful for researchers with other fields of interest.

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